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- 1. A force sensor assembly for use in peristaltic pumps, comprising: a housing;
- a load cell at least partially disposed within said housing; a plunger, pivotable about an axis, where said plunger comprises:

an upper surface; and

circular, square or hourglass.

an underside surface distal from said upper surface where said underside surface cooperates with said load cell; and

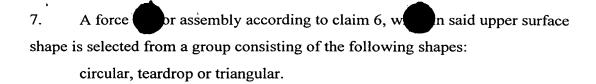
- a means for reducing said load cell's sensitivity to the positioning of an applied force on said upper surface.
- A force sensor assembly according to claim 1, wherein said means for reducing said load cell's sensitivity, comprises an upper surface for receiving an intravenous
  tube perpendicular to said axis.
  - 3. A force sensor assembly according to claim 2, wherein said upper surface is shaped to compensate for variations in measured force caused by the misalignment of said applied force.

4. A force sensor assembly according to claim 3, wherein said upper surface shape is selected from a group consisting of the following shapes:

- 25 5. A force sensor assembly according to claim 1, wherein said means for reducing said load cell's sensitivity, comprises an upper surface for receiving an intravenous tube parallel to said axis.
- 6. A force sensor assembly according to claim 5, wherein said upper surface is30 shaped to compensate for variations in measured force caused by the misalignment of said applied force.

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wherein

- 5 8. A force sensor assembly according to claim 1, wherein said plunger further comprises:
  - a free end; and a pivot end located at said axis.

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- 10 9. A force sensor assembly according to claim 8, wherein said pivot end is rotatably coupled to said housing.
  - 10. A force sensor assembly according to claim 8, wherein said pivot end is rotatably coupled to a body proximate said housing.
  - 11. A force sensor assembly according to claim 8, wherein said pivot end is rotatably coupled to said housing by means of a hinge.
- 12. A force sensor assembly according to claim 11, wherein said is hinge is a20 living hinge.
  - 13. A force sensor assembly according to claim 12, wherein said living hinge is a resilient metal strip.
- 25 14. A force sensor assembly according to claim 12, wherein said living hinge is a resilient plastic strip.
  - 15. A force sensor assembly according to claim 11, wherein said hinge is a small pin pivot hinge.
  - 16. A force sensor assembly according to claim 15, wherein said hinge has low mechanical friction.

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- 17. A force sensor assembly according to claim 1, wherein said load cell is a pressure transducer.
- 5 18. A force sensor assembly according to claim 1, wherein said load cell has low internal mechanical friction.
  - 19. A force sensor assembly according to claim 1, wherein said load cell itself has a reduced sensitivity to the positioning of the applied force on said upper surface.
  - 20. A force sensor assembly according to claim 1, wherein said underside of said plunger is shaped to contact with said load cell at a single point.
- 21. A force sensor assembly according to claim 1, wherein said plunger is biased away from said load cell.
  - 22. A force sensor assembly adapted to reduce a load cell's sensitivity to the positioning of an applied force, comprising:

a housing;

a load cell at least partially disposed within said housing; and a plunger rotatably coupled to said housing by means of a hinge, said plunger further comprising:

an upper surface which is shaped to compensate for variations in measured force caused by the misalignment of said applied force.; and an underside surface distal from said upper surface,

such that in use a force applied to said upper surface of said plunger is transferred to said load cell by said underside of said plunger pivoting into contact with said load cell.

30 23. A force sensor assembly according to claim 22, wherein said hinge is a living hinge.



24. A force or assembly according to claim 23, verifies a small pin pivot hinge.

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